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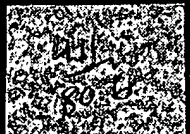
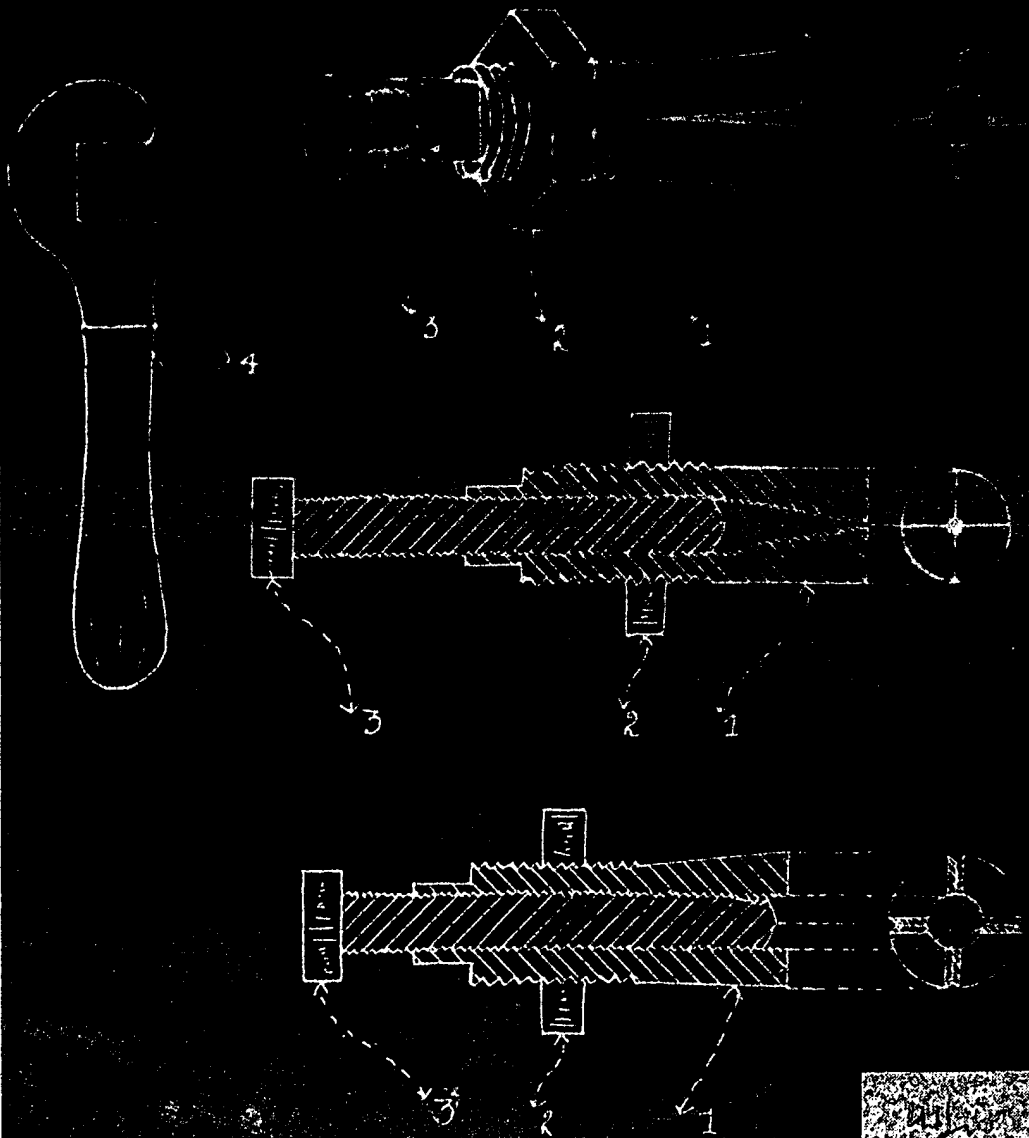
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A.D. 1898

Date of Application, 20th Oct., 1893

Complete Specification Left, 14th July, 1899—Accepted, 20th Oct., 1899.

PROVISIONAL SPECIFICATION.

**An Improved Plug for Stopping Holes in Ships Hulls, Boilers, Tanks and the like, Applicable also for Replacing Rivets and Studs.**

EDMUND READ, Mechanical Engineer, Hope Villa, 7, Liverpool Road, Saint Albans, in the County of Hertfordshire, I, Edmund Read, Mechanical Engineer, do hereby declare the nature of this invention to be as follows:—

A piece of metal afterwards to be called the plug of any suitable shape and material with a nut screwed on one end. The plug is bored and screwed through the centre of its entire length for the purpose of receiving a taper ended screw "afterwards" to be called the expanding screw. The plug is tapered at one end and this end is slotted across and across its centre (thus forming four segments) the slots being cut tapered to allow the centre hole to be nearly closed when segments are pressed together. When segments are pressed ready for use the taper end is about parallel with the screwed end so that it can be passed through the plates of ship, boiler, tank, or the like.

MODE OF WORKING.

To stop a hole in hull of ship while afloat "either above" or below "the water line" from the inside, or in a boiler, or tank, or the like from the outside, viz.:  
15 Pass the aforesaid plug through the hole until the depth of slots or segments has passed the outside plate. Then screw down expanding screw until the top of nut has passed through the plug, the plug being held in position by a key fitted on the nut end of plug, the expanding screw pressing against the closed  
20 parts of segments forces them outwards thereby forming a kind of rivet head, the nut on opposite end is then screwed down on grommet & washer making a secure joint. To replace a broken stud in cylinders or steam jackets or the like, "where possible" drill through hole, and repeat process as per ships, boiler, &c. the same where there is difficulty in passing a bolt (viz.) drop in  
25 plug & screw down expanding screw, & tighten nut, or where it is not possible to hold up behind a rivet (as in upright boilers) between fire box and outer shell or bottom, would sometimes save fixing a screwed patch.

Dated this 19th day of October 1898.

EDMUND READ.

COMPLETE SPECIFICATION.

**An Improved Plug for Stopping Holes in Ships Hulls, Boilers, Tanks, and the like, Applicable also for Replacing Rivets and Studs.**

EDMUND READ, Mechanical Engineer, Hope Villa, 7, Liverpool Road, Saint Albans, in the County of Hertfordshire, I, Edmund Read, Mechanical Engineer, do hereby declare the

*Read's Improved Plug for Stopping Holes in Ships Hulls, Boilers, Tanks, &c.*

nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

And consists of the following parts—afterwards to be called—1, the plug, 2, the nut—for making joint, 3, expanding screw, 4—the handle.

The plug 1 is a piece of metal of any suitable shape and material, bored, 5  
“and a threaded screw cut—through the centre of its entire length for the purpose of receiving the expanding screw, 3. The expanding screw 3 has a small handle 4, attached for holding plug in position when being fixed. One end of said screw is tapered. The plug 1 is tapered at one end and screwed to receive nut 2—at the opposite end. The face of the tapered end is slotted across—and across its 10  
centre the slots being any suitable depth and are made wedge shaped to permit the segments of slotted end being pressed together. The slots across the tapered end of plug 1 having formed 4 segments of equal proportions. When the segments are pressed together the slotted end becomes parallel with the screwed end— thus forming the plug into form for inserting through the hole to be stopped, 15  
the expanding screw 3, being drawn back ready for forcing the segments outwards and thereby forming a sort of rivet head, the nut 2 is for making the joint good, after the expanding screw 3 has been forced hard down on plug 1. (Method of Working.) The plug 1 is passed through the hole to be stopped until the tapered end is clear of the opposite side of plate, then turn expanding screw 3 20  
until the head of same is hard down on plug 1. By this time the taper end of expanding screw 3 has passed through the plug 1, thereby forcing the 4 segments of slotted end outwards” and a kind of rivet head is formed, the nut 2 is then drawn down hard on the plate—thereby drawing the segments tight against the opposite side of plate” and forming a joint. 25

Having now particularly described and ascertained the nature of my said invention, and in what manner the same is to be performed, I declare that

Edmund Read, of the City of London, Inventor, do hereby certify that the foregoing is a true and correct description of my said invention, and the 30  
mode of performing the same.

In witness whereof, I have hereunto set my hand and seal, this 1st day of July 1898.

EDMUND READ.

Witness my hand and seal, this 1st day of July 1898.